

REMARKS

I. Introduction

For the reasons set forth below, Applicant respectfully submits that all pending claims are patentable over the cited prior art references.

II. The Rejection Of Claims 1, 3-6 And 8 Under 35 U.S.C. § 102

Claims 1, 3-6 and 8 were rejected under 35 U.S.C. § 102(e) as being anticipated by Yoshimoto et al. (US 2003/0104265). Applicants respectfully submit that Yoshimoto fails to anticipate the pending claims for at least the following reasons.

With regard to the present invention, amended claim 1 recites a polymer electrolyte fuel cell comprising a cell stack including a hydrogen ion conductive polymer electrolyte membrane, a pair of electrodes sandwiching said membrane and a pair of conductive separators, one of which has a gas flow channel for supplying and exhausting a fuel gas to and from one of said electrodes and the other has a gas flow channel for supplying and exhausting an oxidant gas to and from the other electrode, wherein at least one of said gas flow channels is connected to an inlet manifold at a junction, the lowermost part of said junction is positioned above a gas supply pipe connected to said inlet manifold, and said gas supply pipe is extended into said inlet manifold in the laminating direction of said cell stack.

One feature of the present disclosure is that the fuel cell has a gas supply pipe which extends into the inlet manifold in the laminating direction of the cell stack. As a result of this feature, the gas pressure inside the inlet manifold can be kept uniform, thereby uniformly supplying the gas to the respective cells. In addition, this feature allows for the heat in the pipe to be exchanged between the gas and the extended part of the gas supply pipe, so that the temperature of the gas becomes even. As a result, the relative humidity of the gas supplied to the

respective cells becomes uniform, and hence the hydration of the polymer electrolyte membranes in the respective cells becomes more even.

Furthermore, this feature allows for condensation to occur inside the extended part of the gas supply pipe. This condensation forms water which moved in the laminating direction of the cell stack due to the dynamic pressure of the supplied gas, and comes into contact with the gas inside the extended part of the gas supply pipe. This can result in humidification of the gas and the relative humidity of the gas supplied to the respective cells made more equal.

In contrast to the present disclosure, Yoshimoto discloses a gas supply port 6a shown in Fig. 1 of Yoshimoto. As can be seen, this gas supply port is not extended into the manifold. Accordingly, Yoshimoto fails to disclose each and every element of claim 1.

As the Examiner is aware, anticipation under 35 U.S.C. § 102 requires that each element of the claim in issue be found, either expressly described or under principles of inherency, in a single prior art reference, *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 218 USPQ 781 (Fed. Cir. 1983). As Yoshimoto, at a minimum, fails to disclose a polymer electrolyte fuel cell comprising a cell stack in which a gas supply pipe is extended into an inlet manifold in the laminating direction of the cell stack, it is clear that Yoshimoto fails to anticipate claim 1. Therefore, it is respectfully requested that the rejection of claim 1 under § 102 be withdrawn.

III. All Dependent Claims Are Allowable Because The Independent Claim From Which They Depend Is Allowable

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as claim 1 is patentable for the reasons

set forth above, it is respectfully submitted that all pending dependent claims are also in condition for allowance.

Furthermore, each cited reference fails to disclose the elements of claim 9 as well.

Claim 9 recites that the extended part of said gas supply pipe has a plurality of holes in the top thereof, which are spaced apart at decreasing intervals inwardly. It is alleged that Kumata discloses this feature. However, as is clear in Fig. 14 of Kumata that the holes on the gas supply pipe are not spaced apart at decreasing intervals inwardly. Rather, the holes have increasing sizes at equal intervals. Moreover, Yoshimoto fails to remedy this deficiency. As such, it is clear that the combination of Yoshimoto and Kumata fail to disclose all of the limitations of claim 9 of the present disclosure. Therefore, Applicant submits that Yoshimoto and Kumata do not render claim 9 of the present invention obvious and accordingly, Applicant respectfully requests that the § 103(a) rejection of claim 9 be withdrawn.

IV. Conclusion

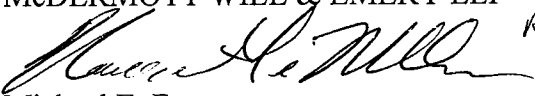
Having responded to all open issues set forth in the Office Action, it is respectfully submitted that all claims are in condition for allowance.

Application No.: 10/820,160

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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